What is claimed is:

1.   A method of providing an adaptive pen mode selection within a pen input based computing system having one or more user selected operating modes including an ink pen input mode, a text input mode, and a data item selection mode, the method comprising:

detecting a pen stroke having a location within a window on a display of the computing system, the pen stroke possesses properties including the location including a starting location, and ending location, a direction, and one or more segments of constant slope;

determining a location of all existing data items displayed within the window containing the location of the pen press, the existing data items possess properties including a data type, a position, a size, and a selection location, and a persistence age;

if the computer is operating in the data item selection mode, selecting all data items having location that corresponds to the location of the pen stroke;

if the computer is not operating in the data item selection mode, perform the following:

determining whether the user desired to select all data items having location that corresponds to the location of the pen stroke using one or more of the properties associated with the pen stroke and the existing data items; and

selecting all data items determined to be intended to be selected by the pen stroke.

2.   The method according to claim 1, wherein

the pen stroke possesses properties including the location including a starting location, and ending location, a direction, and one or more segments of constant slope; and

the properties of the pen stroke are used in determining whether the user intends to select all data items having location that corresponds to the location of the pen stroke.

3.   The method according to claim 2, wherein

the existing data items possess properties including a data type, a position, a size, and a selection location, and a persistence age; and

the properties of the existing data items are used in determining whether the user intends to select all data items having location that corresponds to the location of the pen stroke.

4.   The method according to claim 1, wherein the selecting all data items determined to be intended to be selected by the pen stroke further comprises:

switching the computing system to the data item selection mode;

selecting all data items identified to correspond to the pen stroke; and

switching the computing system back to the previous user selected operating mode.

5.   The method according to claim 1, wherein the selection location for the data item comprises a selection location, a selection size, and a selection direction;

a pen stroke is within the selection location when the pen stroke location corresponds to a location within the area defined by the selection location, the selection size, and the selection direction.

6.   The method according to claim 5, wherein the determining whether the user intends to select all data items having location that corresponds to the location of the pen stroke further comprises:

determining if direction of the pen stroke is in a selection direction;

determining if the location of the pen stroke is within the selection location of all data items; and

if direction of the pen stroke is in a selection direction, selecting all data items in which the pen stroke is within the selection location.

7.   The method according to claim 5, wherein the selecting all data items determined to be intended to be selected by the pen stroke further comprises:

determining if direction of the pen stroke is in a selection direction;

determining if the location of the pen stroke is within the selection location of all data items;

determining if the persistent age of all data items is greater than a predetermined period;

determining the length of the pen stroke across each data item; and

if direction of the pen stroke is in a selection direction, selecting all data items in which the pen stroke is within the selection location when the persistent age is greater than the predetermined period and when the length of the pen stroke across a data item is greater than 50 % of the size of the data item in the direction of the selection direction.

8.   The method according to claim 7, wherein the predetermined period is 2 seconds and the selection direction is left-to-right.

9.   The method according to claim 7, wherein the selection location corresponds to the middle of the vertical side of a data item; and

the selection size corresponds to 25 to 50 % of the size of the data item centered around the selection location.

10.   A computer program product readable by a computing system and encoding a set of computer instructions for providing an adaptive pen mode selection within a pen input based computing system having one or more user selected operating mode including an ink pen input mode, a text input mode, and a data item selection mode, comprising:

detecting a pen stroke having a location within a window on a display of the computing system, the pen stroke possesses properties including the location including a starting location, and ending location, a direction, and one or more segments of constant slope;

determining a location of all existing data items displayed within the window containing the location of the pen press, the existing data items possess properties including a data type, a position, a size, and a selection location, and a persistence age;

if the computer is operating in the data item selection mode, selecting all data items having location that corresponds to the location of the pen stroke;

if the computer is not operating in the data item selection mode, perform the following:

determining whether the user desired to select all data items having location that

corresponds to the location of the pen stroke using the direction property of the pen

stroke and the persistence age of the existing data items; and

selecting all data items determined to be intended to be selected by the pen stroke;

wherein

the pen stroke possesses properties including the location including a starting location,

and ending location, a direction, and one or more segments of constant slope;

the properties of the pen stroke are used in determining whether the user intends to select

all data items having location that corresponds to the location of the pen stroke;

the existing data items possess properties including a data type, a position, a size, and a

selection location, and a persistence age; and

the properties of the existing data items are used in determining whether the user intends

to select all data items having location that corresponds to the location of the pen stroke.

11.   The computer program product according to claim 10, wherein the selecting all data

items determined to be intended to be selected by the pen stroke further comprises:

switching the computing system to the data item selection mode;

selecting all data items identified to correspond to the pen stroke; and

switching the computing system back to the previous user selected operating mode.

12.   The computer program product according to claim 10, wherein the selection location for

the data item comprises a selection location, a selection size, and a selection direction;

a pen stroke is within the selection location when the pen stroke location corresponds to a location within the area defined by the selection location, the selection size, and the selection direction.

13.   The computer program product according to claim 12, wherein the determining whether the user intends to select all data items having location that corresponds to the location of the pen stroke further comprises:

determining if direction of the pen stroke is in a selection direction;

determining if the location of the pen stroke is within the selection location of all data items; and

if direction of the pen stroke is in a selection direction, selecting all data items in which the pen stroke is within the selection location.

14.   The computer program product according to claim 12, wherein the selecting all data items determined to be intended to be selected by the pen stroke further comprises:

determining if direction of the pen stroke is in a selection direction;

determining if the location of the pen stroke is within the selection location of all data items;

determining if the persistent age of all data items is greater than a predetermined period;

determining the length of the pen stroke across each data item; and

if direction of the pen stroke is in a selection direction, selecting all data items in which the pen stroke is within the selection location when the persistent age is greater than the

predetermined period and when the length of the pen stroke across a data item is greater than 50 % of the size of the data item in the direction of the selection direction.

15. The computer program product according to claim 14, wherein the predetermined period is 2 seconds and the selection direction is left-to-right.

16. The computer program product according to claim 14, wherein the selection location corresponds to the middle of the vertical side of a data item; and

the selection size corresponds to 25 % of the size of the data item centered around the selection location.

17. A pen input based computing system having adaptive pen mode selection within one or more user selected operating mode including an ink pen input mode, a text input mode, and a data item selection mode, the computing system comprising:

a programmable processor;

a user display configured to generate pen strokes corresponding to user created pen movements across the display;

one or more data items having properties including a data type, a position, a size, and a selection location, and a persistence age;

an user interface module for capturing user generated pen strokes; and

a data item input module for determining whether data items are to selected by a pen stroke;

wherein

the pen stroke possesses properties including the location including a starting location, and ending location, a direction, and one or more segments of constant slope; and

the data item input module determines whether the user intends to select all data items having location that corresponds to the location of the pen stroke using the direction property of the pen stroke and the persistence age of the existing data items and selects all data items determined to be intended to be selected by the pen stroke.

18.   The computing system according to claim 17, wherein

the properties of the pen stroke are used in determining whether the user intends to select all data items having location that corresponds to the location of the pen stroke.

19.   The computing system according to claim 18, wherein

the properties of the existing data items are also used when the data item input module determines whether the user intends to select all data items having location that corresponds to the location of the pen stroke.

20.   The computing system according to claim 18, wherein the data item input module selects all data items determined to be intended to be selected by the pen stroke by performing the following:

switching the computing system to the data item selection mode;

selecting all data items identified to correspond to the pen stroke; and

switching the computing system back to the previous user selected operating mode.

21. The computing system according to claim 20, wherein the selection location for the data item comprises a selection location, a selection size, and a selection direction;

a pen stroke is within the selection location when the pen stroke location corresponds to a location within the area defined by the selection location, the selection size, and the selection direction.

22. The computing system according to claim 21, wherein the data item input module determines whether the user intends to select all data items having location that corresponds to the location of the pen stroke further comprises:

determining if direction of the pen stroke is in a selection direction;

determining if the location of the pen stroke is within the selection location of all data items; and

if direction of the pen stroke is in a selection direction, selecting all data items in which the pen stroke is within the selection location.

23. The computing system according to claim 21, wherein the data item input module selects all data items determined to be intended to be selected by performing the following:

determining if direction of the pen stroke is in a selection direction;

determining if the location of the pen stroke is within the selection location of all data items;

determining if the persistent age of all data items is greater than a predetermined period;

determining the length of the pen stroke across each data item; and

if direction of the pen stroke is in a selection direction, selecting all data items in which the pen stroke is within the selection location when the persistent age is greater than the predetermined period and when the length of the pen stroke across a data item is greater than 50 % of the size of the data item in the direction of the selection direction.

24.   The computing system according to claim 23, wherein the predetermined period is 2 seconds and the selection direction is left-to-right.

25.   The computing system according to claim 23, wherein the selection location corresponds to the middle of the vertical side of a data item; and

the selection size corresponds to 25 % of the size of the data item centered around the selection location.